Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	CC Docket No. 94-102
Wireless Telecommunications Bureau	)	
Requests Targeted Comment On	)	DA 99-1049
Wireless E911 Phase II Automatic	)	
Location Identification Requirements	)	

To: Chief, Wireless Telecommunications Bureau

OPPOSITION OF Radix Technologies, Inc.

Radix Technologies, Inc. submits the following comments with regard to the Commission's request for targeted comment on wireless E911 Phase II automatic location identification requirements. Radix Technologies is a developer of location solutions for integration into wireless communication networks in response to the mandate established by the FCC in the 94-102 Docket. In particular, Radix has conducted technology demonstrations and local field trials of a CDMA network-based solution that is capable of meeting and exceeding the Phase II requirements adopted by the Commission. Radix is concerned about the granting of the proposed waivers. We feel that the proposed changes vastly alter the original intent of the docket. It will greatly delay the benefits of E911 location service for all wireless communications users, and will put at risk the millions of dollars invested by Radix and similar companies in location technologies by changing the mandate to favor one technology or approach.

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Technical Neutrality

It was noted in the Commission's proposal to grant waivers that there was concern about the technical neutrality of the original mandate. Radix believes that nothing in the original mandate favors any technology over another. Radix has evaluated the key parameters of the mandate, namely that:

- A carrier must support location capability for E911 phone calls by October 1, 2001
- All users of wireless communications handsets should be covered, including existing handsets.
- The location solution should provide an accuracy of 125m or less for 67% of E911 calls.

These requirements, as described in the mandate, are driven by the need to provide life and safety enhancing services to the wireless user community, and to aid and assist the Public Safety community in effectively using their resources to provide service to all users. These requirements do not address different potential technical choices, and as such are technically neutral. If a certain technology can not fulfill the above key requirements of the mandate, then the carrier community should deem that technology as inadequate to fulfill the mandate, and should look to other more viable technologies.

If a technology comes to market later, or over a period of time, with features that benefit the market, then there may be an opportunity to supplement or supplant the existing solutions. But it should not be legislated so as to delay the market to the benefit of a particular technology. The applicable technologies should be judged by how well they fulfill the mandate. The mandate should not be judged by how well it can be met by certain technologies.

Solutions that meet the mandate are available

It has been shown that infrastructure-based ALI solutions exist for all cellular formats, including CDMA. There are a number of companies that have demonstrated and trialed a variety of network-based solutions. They have shown that these systems can meet and exceed the mandate accuracy requirement, will work with existing handsets, and can be in full volume production in time to deploy location capability throughout carrier networks well before the October 1, 2001 deadline. In fact, recent test data from trials of handset-based solutions has shown the accuracy to be in the same range as infrastructure solutions. Radix Technologies, Inc. has developed a network-based ALI system for CDMA networks that meets and exceeds the mandate accuracy requirements, and will be production-ready by 2Q00.

In their proposal, SnapTrack indicates a capability to begin providing ALI-capable handsets by January 1, 2001. First, since it has not been proven to be technically feasible to build such a unit yet, it can not be guaranteed. Second, beginning to provide handsets on January 1, 2001, if it were possible, is a large step backward compared to network-based solutions which can be deployed across a network for all users. These systems will be in full production in 1H00. The handset approach offers a longer path to bringing ALI capability to users, with more risk, and few significant benefits.

Technical problems with handset solutions

Radix has concerns with carriers making commitments for the fulfillment of the mandate by offering handset solutions when there are so many unanswered questions about the adequacy of handset-based approaches. As admitted by SnapTrack and Sprint in recent public forums, only

alpha versions of the SnapTrack handset solutions have been tested. They estimate that it may be at least 2 years before production versions are available. Early testing of the handset solutions have failed to bear out many of the claims by their proponents. There are open questions as to the viability of the final production solution including: power drain, the placement and operation of multiple antennas, the impact on consumer acceptance of the increase size, weight, and cost of premium ALI-capable phones. If handset solutions, when available, show that there is some benefit to integrating GPS into the handset, then the market will determine their acceptance. In the meantime, Radix feels that the Commission should not delay the mandate implementation, particularly for a solution that has not been proven.

Handset Turnover

Radix feels that it is impossible to rely on the mechanism of handset replacement for the implementation of the mandate. Since the choice of handset to be purchased ultimately rests with the consumer, most of whom choose to buy the cheapest phone available, any plan submitted by a carrier to provide a certain number of handsets with geolocation capability by a certain time can not be guaranteed. The handset manufacturers will decide which of its high-end phones within its product portfolio will have the geolocation premium feature. A fraction of consumers would decide to make the decision to buy the premium priced handsets with location technology. In addition, the churn rate for phones is vastly overstated, since a majority of wireless users would continue to keep their current handsets. It is estimated that in 3 years, 40% of handsets in use today will still be in use. Because of these factors, most of which are outside of the carriers control, handset replacement is an unreliable and inadequate mechanism for fulfilling the mandate.

ALI support for roamers

A carrier employing a handset only ALI solution cannot support roamers without some form of network-based solution. It should be noted that this includes roamers without ALI-capable handsets and incompatible ALI-capable handsets. Proposed solutions from SnapTrack, Qualcomm, SiRF, and IDC are all incompatible. In particular, GPS assisted solutions, such as the SnapTrack, only work where both a SnapTrack handset and a SnapTrack compatible infrastructure have been deployed. It seems outside the intent of the original mandate to exclude roamers and those users who will continue to keep their existing phones from receiving the safety benefits of E911.

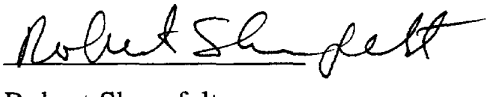
As for the waivers that have been submitted, Radix finds the arguments from carriers to be inadequate. For those intending to implement a handset solution for the waivers, none was able to address the issue of supporting roamers with geolocation capability, nor could they provide any support to users of existing handsets. In addition, those waiver plans that addressed the issue of geolocation implementation through handset turnover can not guarantee the implementation of those plans. It would be disappointing for the Commission to support a plan where only those with the means to buy new premium phones would be granted the safety benefits of the E911 mandate. The inequity of this situation is further emphasized when the current cost recovery mechanism is considered. Many users will be taxed for the implementation of E911 services, but will be unable to receive them.

It is suggested in the call for comment that a carrier could be obligated to buy new ALI-capable phones for all the users who do not have ALI-capable phones by a certain date. This solution is untenable, since this cost alone would be far in excess of deploying a network-based solution, without the added benefit of immediately supporting all existing users by the mandate date.

Conclusion

Radix believes the Commission should not change the rules of the mandate. Radix and others who are offering ALI technology have shown that they can support the E911 mandate for accuracy, deployment, and coverage of all handsets. When handset technologies are developed and in production, they will provide another means of fulfilling ALI requirements. The marketplace will decide the benefits and applicability of these technologies. In the meantime, there is no need to delay the implementation of E911 ALI services for all wireless users.

Respectfully submitted,



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June 16, 1999